



**NREL**

**National Renewable Energy Laboratory**  
*Innovation for Our Energy Future*

# Using Project Management Methodologies to Achieve Successful IT Projects *(without leaving casualties on the war-room floor)!*



**Penny Rummel**

**DOE Information  
Management Conference  
March 3, 2009**

# What is a Successful Project?

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- Completed by the due date?
- Under budget?
- Deliverables met?
- Cancelled?

# What is a Successful Project? (conc.)

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- Finally completed?



# Why Projects Aren't Successful

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How the customer explained it:



# Why Projects Aren't Successful (cont.)

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How the project leader understood it:



# Why Projects Aren't Successful (cont.)

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How the analyst designed it:



# Why Projects Aren't Successful (cont.)

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How the programmer wrote it:



# Why Projects Aren't Successful (cont.)

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How the business consultant described it:

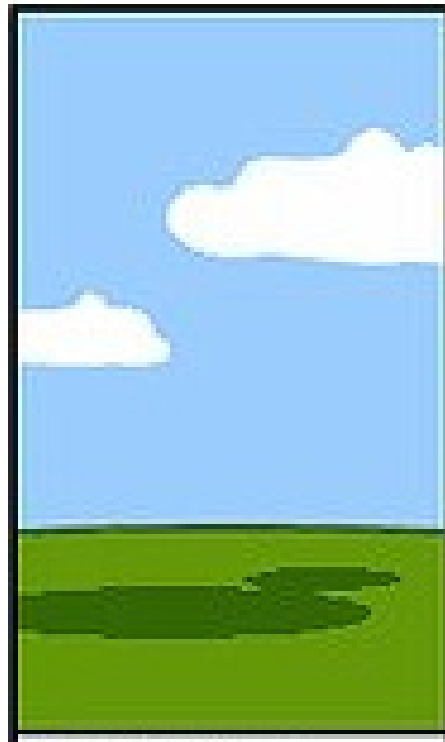




# Why Projects Aren't Successful (cont.)

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How the project was documented:



# Why Projects Aren't Successful (cont.)

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What operations installed:



# Why Projects Aren't Successful (cont.)

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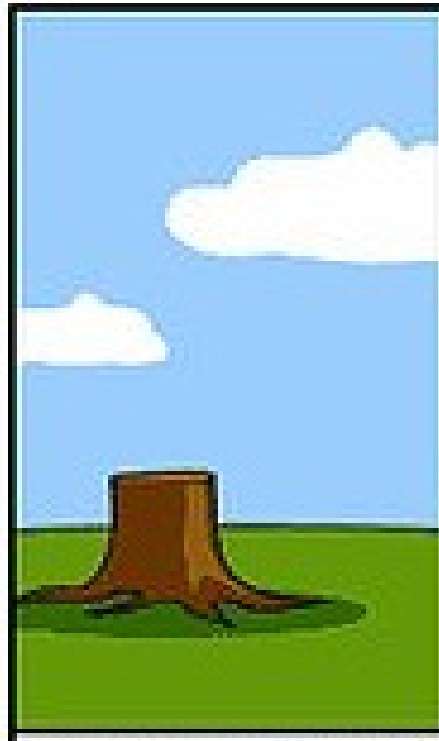
How the customer was billed:



# Why Projects Aren't Successful (cont.)

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How it was supported:



# Why Projects Aren't Successful (conc.)

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What the customer really needed:



# Common Language and Definitions

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- What is a project?
  - “A temporary endeavor undertaken to create a unique product, service, or result”*
  - Distinct begin and end dates
  - Not operational
  - Clear objectives and deliverables
- Develop a glossary of terms

# Develop Project Mgmt. Methodologies

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Where do I start?

- Find the right resource
- Portfolio framework
- Processes
- Toolkit
- Training

# Portfolio Framework

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- Documents and tracks all projects
  - Number
  - Size
  - Drivers
  - Owners and other roles
- Project prioritization



# Project Prioritization – Young

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‘Project: Humor – Water Me’ (By Raven Young) [www.bitstrips.com](http://www.bitstrips.com)



# Project Prioritization – Young (cont.)

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# Project Prioritization - Young (conc.)

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# Project Prioritization - Dilbert

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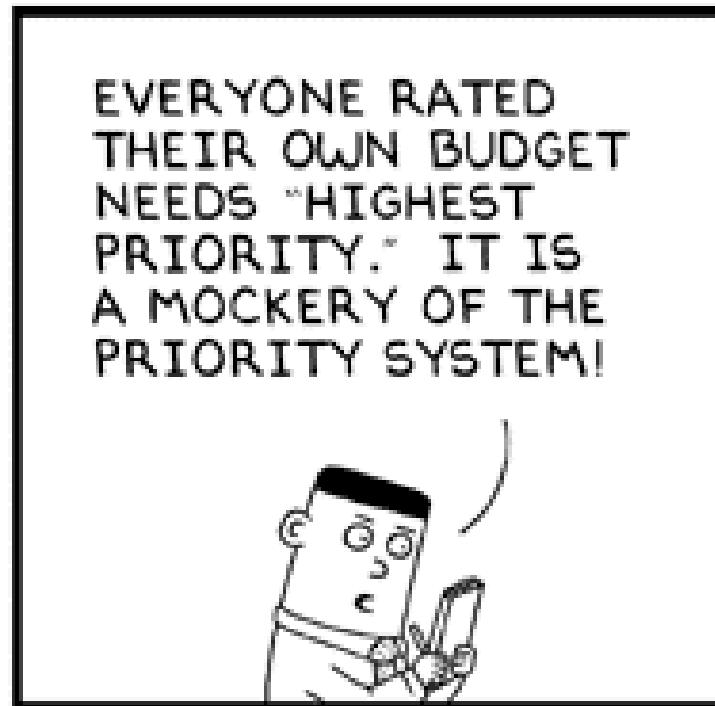
2003 Scott Adams, United Feature Syndicate, Inc. [www.dilbert.com](http://www.dilbert.com)



# Project Prioritization – Dilbert (cont.)

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# Project Prioritization – Dilbert (conc.)

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# Portfolio Framework (cont.)

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- Resource management
  - Right number of resources
  - Right resources

# Resource Management - Dilbert

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# Resource Management - Dilbert (cont.)

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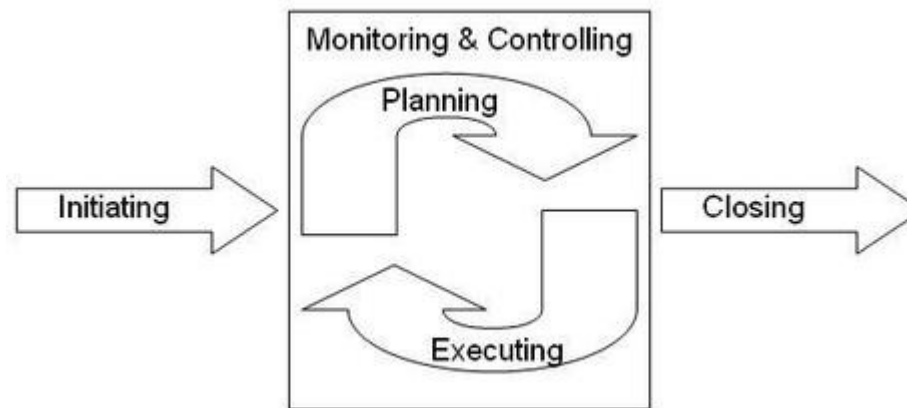


# Portfolio Framework (cont.)

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- Project life cycle phases

- Initiation
- Planning
- Execution
- Closing



# Framework Decisions

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## Project Portfolio Management (PPM) system

- Buy vs. Make
  - Buy and customize
  - Build using existing technologies
- NREL's Decision
  - Make
  - Data and metrics
  - Requirements for future

# PPM Framework Software

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- Microsoft Excel
  - Individual group spreadsheets
  - Master spreadsheet
  - Dashboard
    - Project status
    - Project size
    - Project phase
- Microsoft Sharepoint
  - File/Document storage
  - Notifications
- Microsoft Project

# PPM Framework Data

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Collect and track:

- Overview and organization
- Priority
- Health
- Duration and project phases
- Notes
- Class and Drivers
- Business Alignment Strategy
- Risk Management
- Issue Management
- Resources and Effort

# Processes

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- Project Management Institute (PMI)
- Best Practices

***Customize and Right-size***

# Processes – Dilbert

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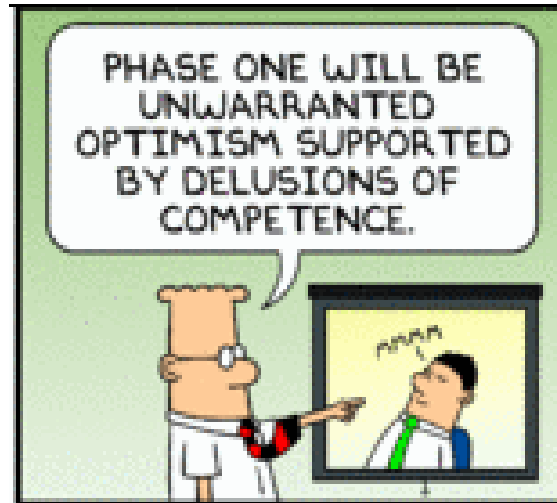




# Processes – Dilbert (cont.)

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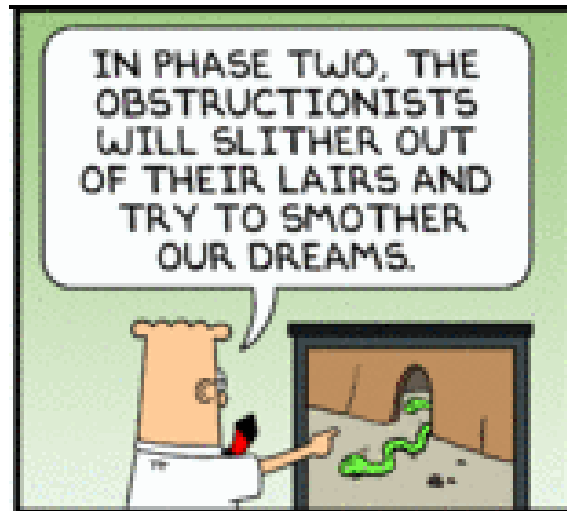
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# Processes – Dilbert (cont.)

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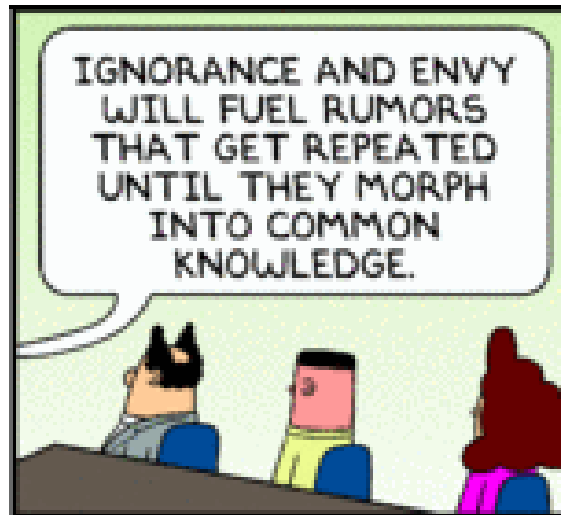
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# Processes – Dilbert (cont.)

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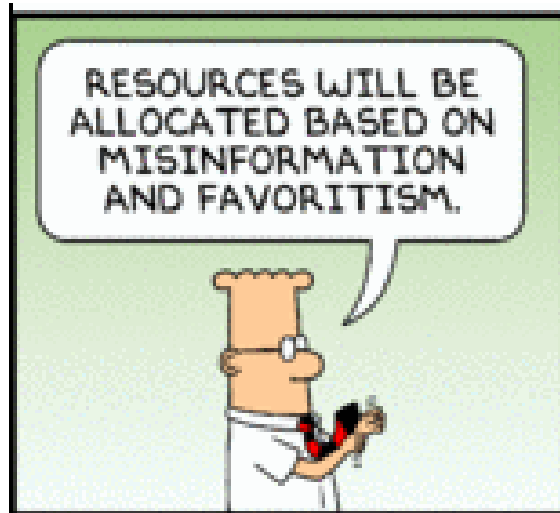
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# Processes – Dilbert (cont.)

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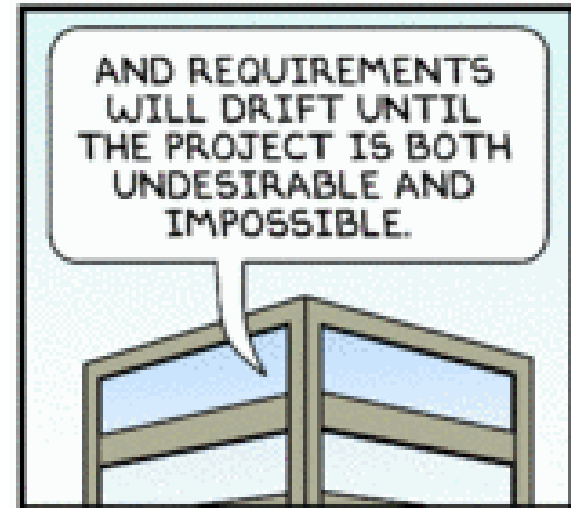
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# Processes – Dilbert (conc.)

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# Processes (cont.)

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## KISS

- Master spreadsheet
  - Charter and Project Plan
  - “Flag” for other plans
- Project updates
  - Project leader
  - Supervisors
  - Managers



# Processes (conc.)

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- Weekly project portfolio meetings
- Clear methods, expectations, and outcomes
  - Communication
  - Client reviews and approvals
  - Negotiation
  - Change control
  - Schedule vs. scope vs. cost vs. quality



# Project Prioritization – Young

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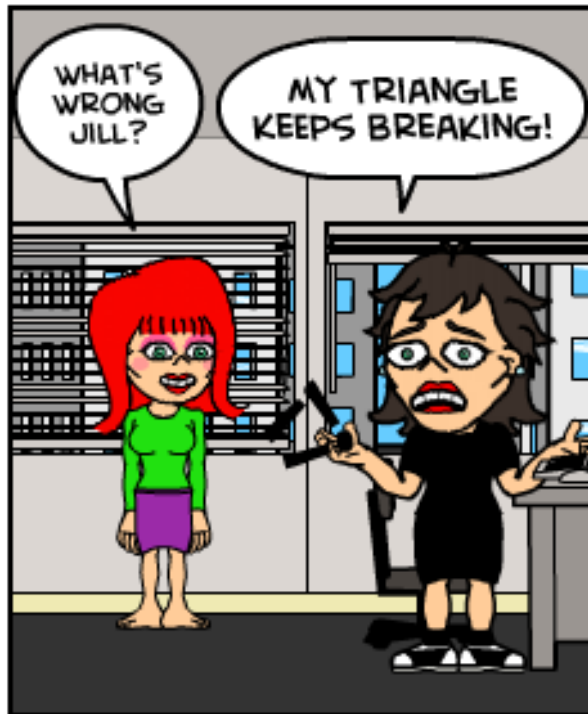
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# Toolkit

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- Templates
  - Project Charter document
  - Project Plan document
  - Project Quality Plan
  - Closing Document

# Toolkit (conc.)

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- Additional Supporting Templates include
  - Communication Plan
  - Requirements Document
  - Technical Requirements Matrix
  - RACI Matrix
  - Risk Register
  - Issue Register
  - Test Plan
  - System and Integration Test Plan Matrix
  - Work Breakdown Structure (WBS)
  - Project Change Request Form

# Training

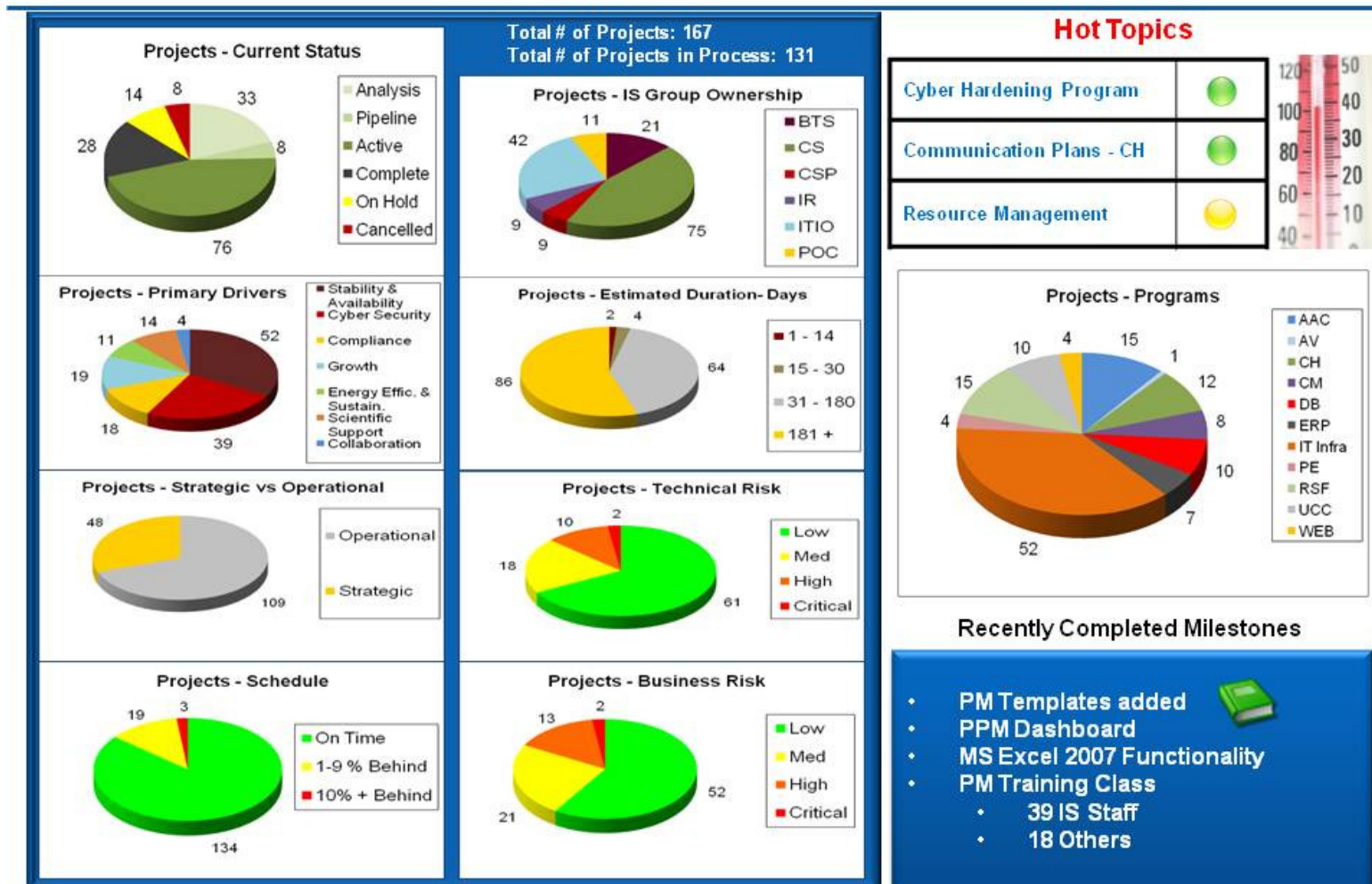
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- Project management foundation
- Portfolio framework and processes

# Dashboard Metrics

## ISO Project Portfolio Dashboard

02.20.2009

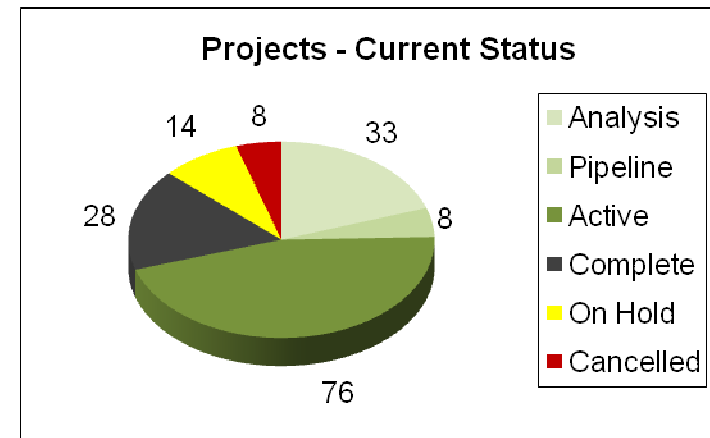




# Dashboard Metrics (cont.)

## Current Status

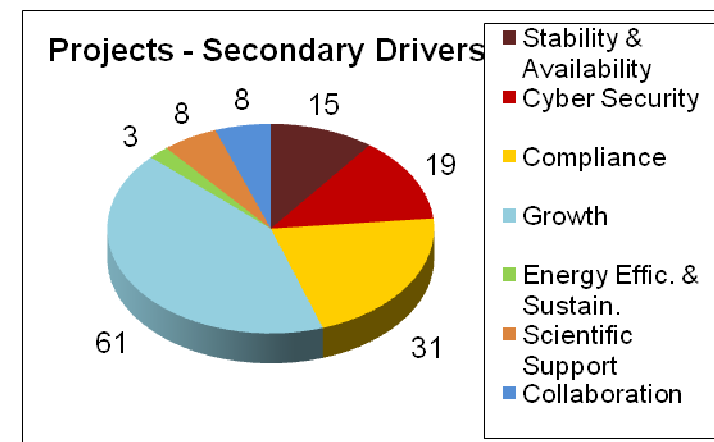
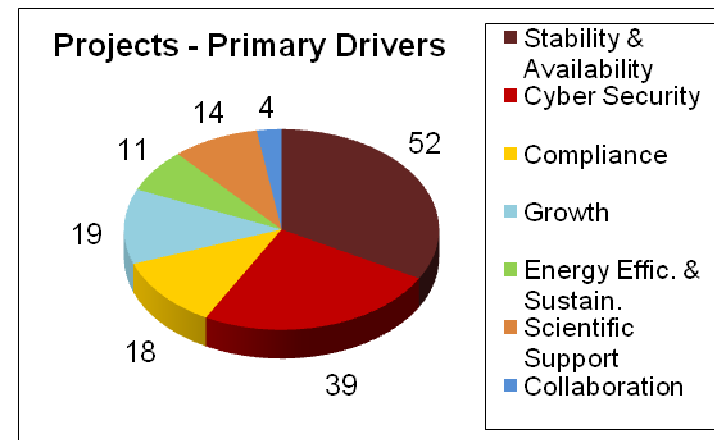
- Analysis – being evaluated, not yet approved.
- Pipeline – approved, not being worked on
- Active – actively being worked on
- Complete – 100% complete
- On Hold – was active, but now on hold
- Cancelled - has been cancelled



# Dashboard Metrics (cont.)

## Primary and Secondary Drivers

- Stability & Availability
- Cyber Security
- Compliance
- Growth
- Energy Efficiency & Sustainability
- Scientific Support
- Collaboration

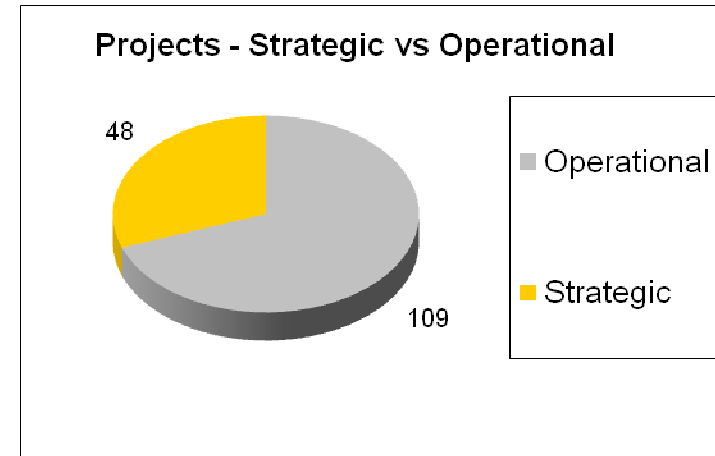


# Dashboard Metrics (cont.)

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## Strategic vs. Operational

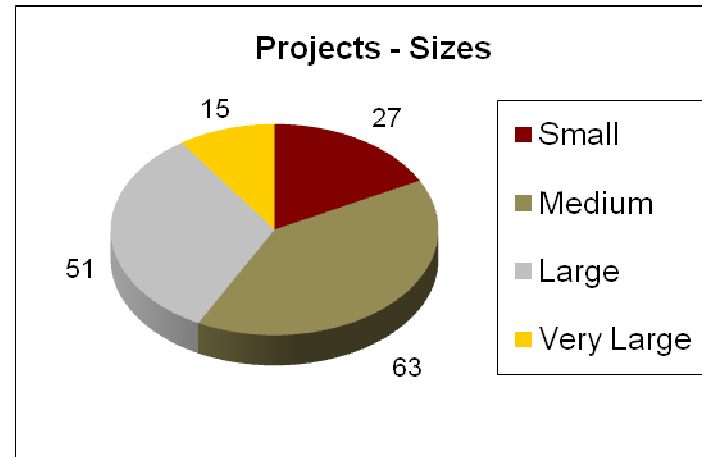
- Stability & Availability
- Cyber Security
- Compliance
- **Growth**
- **Energy Efficiency & Sustainability**
- **Scientific Support**
- **Collaboration**



# Dashboard Metrics (cont.)

## Size

- Cost
- Duration (days)
- Required Resources
- Lab Impact



Total Score = value of cost + value of duration +value of required resources +value of lab impact

- Small = 4-6
- Medium = 7-9
- Large = 10-12
- Very Large = 13-16

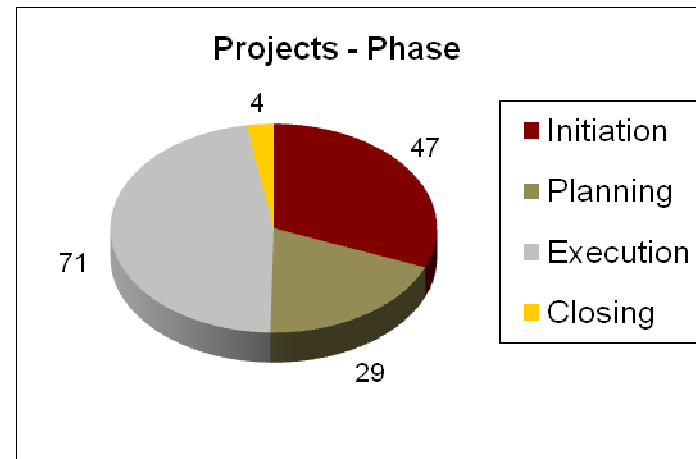
# Dashboard Metrics (conc.)

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## Phase

What life-cycle phase is the project in?

- Initiation
- Planning
- Execution
- Closing



# Project Programs

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What is a project program?

***“A group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually”***

- Project program examples:
  - Authentication and Access Control (AAC)
  - Cyber Hardening (CH)
  - Database (DB)
  - Research Support Facilities (RSF)
  - Unified Communications and Collaboration (UCC)
  - Web

# Continuous Improvement

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- OINK  
    **O**ppportunity for **I**mprovement **N**eeded **K**nucklehead
  - PPM framework
  - PM methodologies
  - PM toolkit and library

# Penny's Top 5 Take-Aways

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1. Common language and definitions
2. Project management methodologies that are right-sized
3. Easy to use portfolio tool
4. Training
5. Communication



# Don't Let This Be You

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Project manager and St. Peter – Knight Associates 2008



# Questions

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